

List of Dissertation Abstract (Environment and System Sciences)

Name	Supervisor	Title	Abstract
Miho KAMADA	Kenji ARAMAKI	Influence of Perfume Solubilization on Rheological Properties of Aqueous Wormlike Micellar Solution Formed in Anionic-Nonionic Surfactant Systems	We studied the effect of various perfumes molecules with different chemical structure to manipulate the viscosity behavior of wormlike micellar solutions formed in anionic-nonionic surfactant system. The solubilization sites in the micelle are different and influence viscoelastic behavior from difference in polarity and molecular structure of the perfume. In addition, by the comparison of a system derived from petroleum and the bio-based system, a solubilization tendency was a result different partly. This study is important knowledge about viscosity control by various perfumes to adding trace and the development of the detergents by the use of the environmental correspondence model surfactant.
Taisuke MARUYAMA	Ken NAKANO	Study on Lubrication Condition Monitoring of Rolling Bearings —Development of Electrical Impedance Method—	Rolling bearings used in sliding parts of various machines are required to have both lower torque and longer life. In order to develop such high performance bearings, the lubrication condition monitoring of the bearings is indispensable. Conventionally, the optical interferometry has been mainly used as a technique for monitoring lubrication conditions, however it cannot be applied to practical bearings. Therefore, in this research, the electric impedance method is developed which can simultaneously measure the thickness and the breakdown ratio of oil film in bearing contact areas.